

EDITORIAL

A Wake-Up Call for Corporate America

Background

A 2002 Hewitt Associates (Hewitt) survey of 700 large and medium employers pointed out that "Nearly all employers (99%) report being 'significantly or critically' concerned about health care costs, while 75% are concerned that employee dissatisfaction with health care benefits is impacting attraction, retention and engagement."¹ The Washington Business Group on Health-Watson Wyatt employer survey reports that only 18% of employers are "very confident" of their ability to manage current increases in health care costs.² Put another way, 82% don't know what to do.

Little more needs to be said about the corporate concern caused by increases in health care costs and the uncertainty generated by the chaotic nature of today's workplace. To explore these and similar issues, the Health Enhancement Research Organization (HERO)³ facilitated an invitation only, 2-day meeting of corporate management personnel, large health management provider organizations, and selected health/education institutions known to have particular interest in employee-executive health evaluation. Medical Directors and other corporate managers who participated represented Motorola, Prudential, Dow Chemical, British Petroleum, Merck & Company, Rohm & Haas, Deere and Company, Union Pacific Railroad, General Mills, Abbott Laboratories, Marathon Ashland Petroleum, Caterpillar, Delta Airlines, and Daimler-Chrysler. Joining this group were six large health management provider organizations. In addition, there were benefits and health executives/managers from The Mayo Clinic,

New York Presbyterian Hospital, Intermountain Health Care, APS Health Care, the University of Alabama at Birmingham, and the University of Tennessee. A total of 45 organizations were represented.

There was general agreement among this expert group that the kinds of opinions expressed in the above surveys are valid. More specifically, the group expressed concerns about underestimates of annual increases in health care costs and how to get control of the situation. There was also apprehension about how the 3-year economic downturn has affected corporate operations. Based on these and similar factors, the group concluded that a need exists for a "position paper" that objectively identifies workplace health-related problems; attempts to more accurately define near-term, mid-term, and long-term health care cost increases; and provides suggestions for solving some of the problems by presenting the case for optimizing employee health as a method to reduce health care utilization and moderate cost increases. This is an attempt to address this request.

Health Care Costs

According to a Mercer Human Resources Consulting (Mercer) survey of 2900 employers, the cost of health care increased 14.7% in 2002 and now accounts for over 14% of the gross domestic product.⁴ In 2001, the delivery of health care was a \$1.45 trillion business, which breaks down to \$3.6 billion every day, or \$1.5 million per hour.⁵ This converts to about \$5200 per capita, based on the US Census Bureau's 2001 population estimate of 279 million. It is estimated that approximately 237 million of these Americans are en-

rolled in a health care plan. Employers provide coverage for 68% of this insured group. Medicare and Medicaid cover an additional 23%, and 9% are self-pay or self-insured.⁶

The purchase of health care is a convoluted process. The employer (government or private) usually purchases a product they do not use directly and often know little about. In some cases, they have little control over quality standards and a limited ability to monitor delivery. Employees (the patient), who pay only a small, but increasing portion of the purchase price, are often intimidated by the system and always want the gold standard treatment if they or the family are ill. Most incredible, the health care plan establishes a fee structure that provides little opportunity for the payers (employer and employee) to directly negotiate prices. Over the years, this unorthodox system has created an environment in which the providers and health care plans have assumed the position of driving the system instead of the payers, which is usually the case in our market economy. This lack of control and knowledge by the purchasers may be unprecedented in the US economy.

The Chaotic and Challenging Workplace

Although it is becoming increasingly important, the spiraling cost of health care is not the only problem facing employers and employees. For many corporations, the workplace is anything but tranquil. The market value of the average publicly traded company is 50% less than it was just a few short years ago.⁷ Several years ago, who would have thought that major airlines would be in, or near bankruptcy? The evapo-

ration of the high-tech phenomenon shattered the dreams of many. Hundreds of thousands have been laid off while those who remain are expected to assume extra workloads. Stock prices have plummeted with little encouragement that the end is in sight. This has caused incalculable numbers of retirement plans to nearly vanish or drop well below the reserves necessary for the planned post-work years. Dozens of top-level executives are under investigation for potential criminal activity.

These and similar factors have caused some to suggest that the workplace may be the most chaotic and challenging in recent history. In some cases, corporate uncertainty is high. Many employers recognize this problem and are proactive in helping employees cope with the fall-out of uncertainty. Despite this, problems occur. Some of these are as follows: 1) stress-related mental and physical diseases increase; 2) decision-making becomes less precise; 3) time management becomes flawed; and 4) work performance declines. These factors can have a major negative impact on corporate profitability and success. The situation becomes even more acute when the problems associated with runaway health care costs are added to the mix. When considering today's workplace, it must also be recognized that some employees thrive on elevated levels of uncertainty and stress.

There is little hope that 2004 or the next several years will be better when it comes to rising health care costs. This is causing many employers to evaluate their situation on the topic of employee health care and to consider what the future holds. One way to approach this task is to reflect on the significant attempts at containment of health care costs over the past several decades.

Attempts at Cost Containment

Over the past two decades, numerous efforts have been made to control health care use and stem rising costs. Managed care, demand man-

agement, disease management, medical savings accounts and, most recently, consumer-driven health care have been, or are being tried. From 1990 to 2000, health care costs doubled from \$700 billion to \$1.4 trillion. The increase for 2002 was over 14%.^{1,4} This causes many to conclude that these efforts at cost containment have failed, or at best, met with limited success. Disease management is experiencing a resurgence,⁸ and it is too soon to judge the results of consumer driven approaches.

A cost-containment tool being used increasingly by employers is raising employee contributions. A headline in the *Wall Street Journal* stated, "Companies Pass the Buck on Benefits."⁹ The story started with this statement, "'Pass it on' has become the new mantra when it comes to controlling health care costs." The story describes in detail what corporations such as DuPont, Ford, General Electric, General Motors, Good-year, and Wal-Mart are doing to modify their health care and retirement plans in ways that pass on greater costs or cut back on benefits for employees and retirees. According to a Kaiser Family Foundation (Kaiser) survey of 3262 randomly selected public and private corporations, employees with single coverage are now paying 27% more on average than last year and those with family coverage are paying about 16% more.¹⁰ Some unions are complaining that cost of living and merit pay increases are routinely being offset by the increases in health care costs being passed on by employers.¹¹ In early 2003, General Electric employees went on a short-term strike because of health care cost increases that were passed on by the company.¹²

Passing it on goes beyond increases in employee contribution. According to a report by Hewitt, in addition to higher payroll contributions, employers are also starting to provide lower subsidies for dependents, starting spousal surcharges,

enforcing larger out-of-network penalties, and increasing office, hospital inpatient, and emergency room copayments.¹ *A wake-up call for corporate America is that past attempts to control increases in health care costs have failed in the long term. The jury is still out on consumer-driven health care, and passing it on is only a momentary solution.*

Change is On the Way

There is growing opinion that today's health care insurance system cannot survive without fundamental changes. A number of first-time and recurring events are converging that have the potential to accelerate medical expenditures beyond what employers, employees, and governments are able and willing to pay. These factors include the following:

- **Here Come the Boomers.** Today there are 18.2 million workers 55 years of age or older. Employers should be concerned in that in 2008, there will be 25.8 million in this age bracket. This represents a 42% increase over the next 6 years in the employee group that generates the largest portion of employer-covered medical costs.¹³
- **The Graying of America.** Currently about 12% of the U.S. population is over 65 years old. This number will increase to 20% over 65 years old by 2025.¹⁴ Today, about \$241 billion is spent annually on Medicare. A near-doubling of enrollees plus increases in health care cost inflation could drive this figure to \$700 billion or more by 2020 to 2025.¹⁵
- **The Chaotic Workplace.** Today's workplace is rampant with uncertainty. This generates unprecedented levels of uncontrolled stress and anxiety. Chronic stress and anxiety can, in some cases, lead to significant increases in stress-related diseases. In addition, decision-making becomes less precise, time management becomes flawed, and work performance declines. Individually, or in combination, these factors escalate

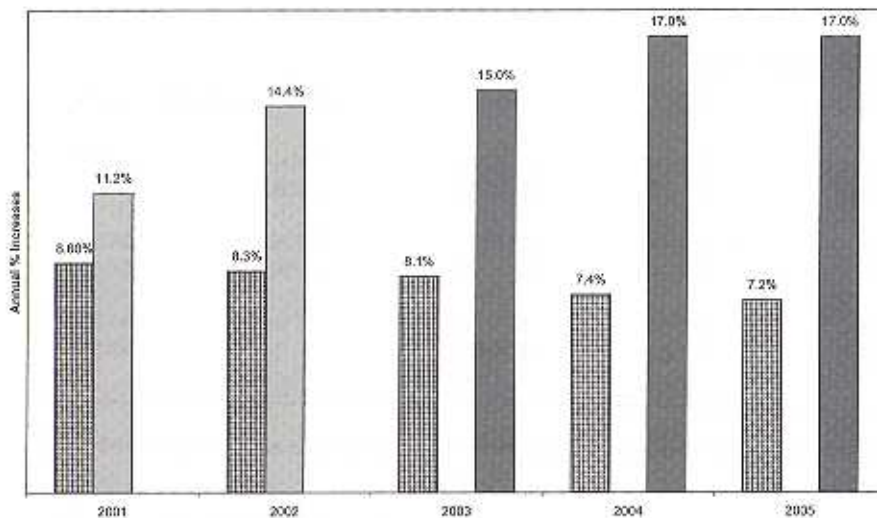


Fig. 1. Health Care Financing Administration, Office of the Actuary. Forecasts for increases in medical expenditure for 2001 to 2005 when compared with actual (2001 to 2002) and current (2003 to 2005) estimates.

medical expenditures and reduce work performance, both of which drive down corporate profits.

- **Hospital Charges.** An analysis of the 14% increase in health care costs for 2002 reveals that about 51% of the growth was caused by hospital cost increases.¹⁶ This may be in response to deep discounting during 1994 to 1997 to compete for managed care business and recent reductions in payments from the federal government and other agencies. The number of mergers and acquisitions may also be factors in reducing competition.
- **Pharmaceutical Costs.** Over the past decade, increases in pharmaceutical costs have been a reason for the overall growth in medical expenditures, although these increases have fallen to second place behind the growth in hospital charges over the past year or two. Sometimes, it is not acknowledged that advances in pharmaceutical development, even though expensive, may eliminate or shorten inpatient care, reduce illness absenteeism and perhaps increase work performance through optimal disease management.
- **The Obesity Epidemic.** Nearly 7 of 10 Americans are overweight or obese.^{17,18} The association between overweight or obesity and

numerous serious clinical diseases is well documented. The obesity epidemiologists have not yet calculated the overall financial impact, but this epidemic, resulting from sedentary lifestyle and poor nutrition, will further extend future health care cost problems unless it is reversed.

Any one of these situations would be serious by itself, although not sufficient to produce major changes for the current health care system. In combination, these factors are likely to make significant changes inevitable. *A wake-up call for corporate America is that this time it is different. Simultaneous forces are combining to minimize the potential for future moderation in health care costs within today's health insurance system.* Intelligent changes must occur that optimize employee health, reduce utilization, moderate costs and enhance work performance.

Medical Expenditures: Past, Present, and Future

A brief review of health care costs over the past several decades will help illustrate why things are out of control. In the mid-to-late 1980s, annual health care cost increases were in the 17% to 19% range.⁴ There was

also growing concern over the 38 million Americans with no formal medical insurance coverage. These were the factors most often noted for the Clinton Administration's "Health Security Act," which was introduced to the US Congress in September 1993.¹⁹ Congress spent a year debating this proposal for a federal and state take-over of the health care system and ultimately rejected it in October 1994.²⁰⁻²² Even though Congress rejected governmental regulation and control, the consideration of such action reverberated throughout the health care delivery and financing systems.

After the demise of federal health care reform, an immediate response was that managed care came forth and claimed to employers and others that they would control costs. From 1995 through 1998, it appeared that managed care might succeed in their claim. During this 4-year span, annual increases in health care costs averaged less than 2% per year.⁴ Employers and other health care purchasers were lulled into a false sense of security that medical expenditures were finally under control and of no further cause for concern. To moderate costs, the health care system flushed out most of their excess financial reserves. The forces of competition and other factors caused operating expenses to soon exceed revenue. As a result, the majority of health care providers and plans, especially managed care plans, recorded huge financial losses.²³ This reduced the ability of the providers and plans to keep costs at an acceptable level.

In 1998, the notice went out that significant cost increases were on the way, but few accurately predicted the magnitude of these increases. In 2000, for example, the Health Care Financing Administration (HCFA), Office of Actuary, published its forecasts for health care cost increases for the period of 2001 to 2005, as shown in Fig. 1.⁵ HCFA is considered by many as a benchmark for health care cost forecasts.

TABLE 1

Projected dollar increases in health care costs for 2002–2005

Type Coverage	2002	2003*	2004*	2005*	% & \$ Increase 2002–2005*	
PPO						
(Family)	\$8,173	\$9,399	\$10,997	\$12,866	57%	\$4,693
(Single)	\$3,175	\$3,651	\$ 4,272	\$ 4,998	57%	\$1,823
HMO						
(Family)	\$7,541	\$8,657	\$10,146	\$11,871	57%	\$4,330
(Single)	\$2,764	\$3,179	\$ 3,683	\$ 4,309	57%	\$1,545
Indemnity						
(Family)	\$8,479	\$9,750	\$11,407	\$13,347	57%	\$4,868
(Single)	\$3,582	\$4,119	\$ 4,819	\$ 5,638	57%	\$2,056
% Increase	14.7%	15%*	17%*	17%*		

* estimates

Source: 2002 data from the Kaiser Family Foundation and Health Research and Education Trust. 2003–2005 based on current trends.

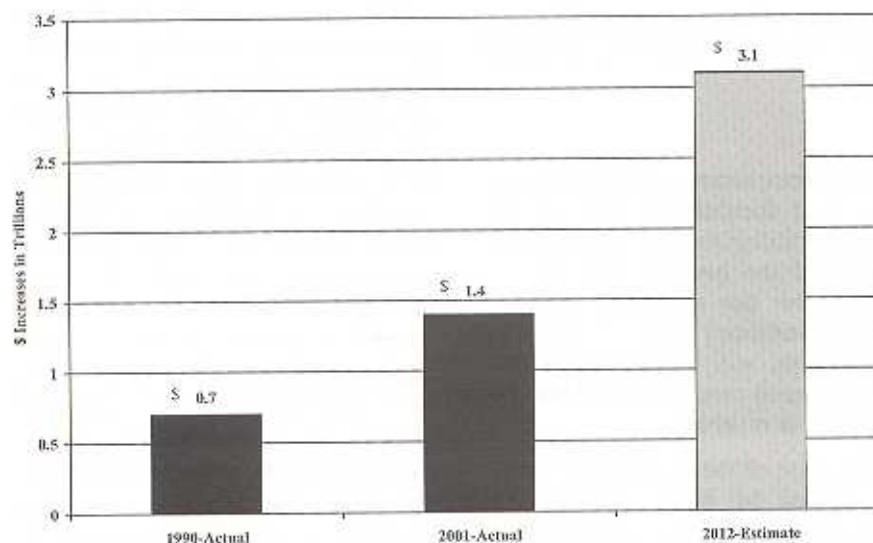


Fig. 2. Center for Medicare and Medicaid Services, Office of the Actuary, Forecasts for increases in total medical expenditures showing that costs are expected to more than double from \$1.4 trillion in 2001 to \$3.1 trillion in 2012. This assumes an average annual increase of 7.3% for 2001 to 2012.

HCFA's forecasted increase for 2001 was 8.6%; the actual increase was 11.2%. Their 2002 forecast was 8.3%; the actual increase was 14.4%.⁴ For 2003 to 2005, HCFA forecast annual increases of 8.1%, 7.4%, and 7.2% respectively. Most private sector forecasts currently suggest annual increases of 15% to 17% over this time period.^{1,4,10,24,25} A Mercer report indicates that 50% of the employers surveyed indicated an 8% annual increase is the maximum they can tolerate.⁴ Fig. 1 dramatically illustrates that government generated, predicted increases can be gross understatements, and the pri-

vate sector forecasts paint a sobering picture for continued increases in costs. *A wake-up call for corporate America is that annual increases in health care costs are, and will continue to be, far greater than initially anticipated.*

Another problem with health care cost forecasts is that almost all of them are expressed as annual percent increases. It is difficult for all but the statistically astute to comprehend the actual dollar increases when annual percentage increases are converted to dollars and compounded over several years. Therefore, Table 1 shows predicted dollar increases for family and

single coverage for three forms of coverage: Preferred Physician Organization (PPO), Health Maintenance Organization (HMO), and indemnity plans. In 2002, about 50% of those with coverage were in a PPO, whereas 29% had HMO coverage, with indemnity coverage down to about 7%.⁴ The remaining 14% are less popular plan designs. The dollar increases are predicated on an estimated increase of 15% for 2003, which is about the same as the 2002 increase and a 17% increase for 2004 and 2005. Based on these forecasts, Table 1 shows that by 2005, PPO, HMO, and indemnity coverage will increase, on average, about \$4600 per family, whereas single coverage will be up about \$1750 per year. This reflects, on average, a dollar increase of 57% from 2002 to 2005. *A wake-up call for corporate America is that updated forecasts suggest that, just several years from now, health care will cost 55% to 60% more than it does today.*

Although these short-term projections of health care costs are a concern, an examination of the forecasts over the next 8 to 10 years is much more alarming. Figure 2 shows projected health care costs in trillions of dollars as provided by the Center for Medicare and Medicaid Services (CMMS).¹⁵ After doubling from \$700 billion in 1990 to 1.4 trillion in 2001, CMMS predicts that health care costs will more than double again, reaching \$3.1 trillion in 2012.

TABLE 2

Projected dollar increases in health care costs for 2002–2012, based on estimated increases of 7.3% per year

Type Coverage	2002	2012*
PPO		
Family	\$8,173	\$17,980
Single	\$3,175	\$ 6,985
HMO		
Family	\$7,541	\$16,590
Single	\$2,764	\$ 6,080

* estimate

Source: 2002 data from the Kaiser Family Foundation and Health Research and Education Trust. 2012 Projections from the Center for Medicaid and Medicare Services

Health care as a percent of the gross domestic product is expected to increase from about 14% to over 17% during this same time frame.

As shown in Table 2, when this is converted into dollars and compounded, it means that PPO family coverage will escalate from \$8173 in 2002 to \$17,980 in 2012. Single coverage will go from \$3175 to \$6985. HMO family coverage will move from \$7541 to \$16,590, with single coverage increasing from \$2764 to \$6080. If this is not bad enough, there is even worse news. This forecast is based on projected average increases of 7.3% annually for 2003 to 2012. Average increases are currently about double this level. This caused the authors of a Hewitt survey of 945 companies to conclude, "Unless there is a fundamental change in the way health care is delivered, costs will double in the next 5 years."²⁵

One of the most chilling of all forecasts was released by the National Coalition on Health Care (NCHC).²⁶ According to NCHC materials, they are the "nation's largest and most broadly represented alliance working to improve America's health care." NCHC is composed of nearly 100 organizations representing about 100 million Americans. These organizations are large-to-small businesses, large labor organizations, consumer groups, and primary care providers, along with the

largest health and pension funds. The NCHC report suggest that if current health care cost increases continue:

- Per employee cost, for family health care coverage is projected to be about \$14,500 by 2006. This compares with per employee cost of about \$7900 for average family coverage in 2002.
- The number of uninsured could increase from about 41 million today to 51–56 million by 2006. This is due mainly to the large number of smaller employers who will eliminate health care coverage.

The main message in the wake-up call for corporate America is that health care costs are on target to double in five years or less.

The Health Care (R)evolution

Although there is growing consensus that changes in the health care system are inevitable, it is unlikely to result from a revolution, but rather a process of evolution. The primary question is what evolutionary changes can and should be made? There is no shortage of opinions. A review of several randomly selected articles in prestigious publications provides a variety of proposals for how to control health care utilization and costs.

An article by Blumenthal in the *New England Journal of Medicine* proposes changes based on employee empowerment, purchaser-provider partnerships, stronger market forces, improved managed care services, governmental cost controls, and the like.²⁷ In the *Journal of the American Medical Association*, Robinson suggests that managed care has been "an economic success, but a political failure." The changes he recommends are broadening physician panels, removing restrictions, and reverting to fee-for-service payment.²⁸ Writing in the *Harvard Business Review*, Herzlinger presents the case for consumer-driven health care as the prime method of change.²⁹ In *Health Affairs*, Garber suggests that any at-

tempt to control costs must include a financial assessment of technology. He advocates the dissemination of cost-effectiveness data and information on all high cost technologies.³⁰

It is interesting that these, and similar reports advocating changes in the health care system are practically devoid of recommendations for health enhancement and disease prevention/management as important approaches to control health care utilization and moderate costs. This should not be surprising because the current \$1.4 trillion health care business has little to do with prevention, enhancing or even maintaining optimal health. Generally, it is a \$1.4 trillion diagnosis and treatment business. This is verified in a statement by Donna Shalala, former Secretary of the US Department of Health and Human Services, which indicated that less than 5% of the health care budget is devoted to prevention activities of all kinds.³¹ Put another way, when all the funds spent for inoculations, PAP tests, mammograms, annual physical examinations, and other preventive medicine efforts are combined with what is spent for all health assessments and behavioral modification programs, it adds up to less than 5% of the annual medical budget. Of equal concern is that less than 1% of each research dollar is spent on behavioral-oriented prevention research.³² Nearly all the recommendations for change come from within an established system that puts little emphasis on health enhancement and disease prevention. This explains why the aforementioned, scholarly publications propose changes that focus on diagnosis and treatment, because this is what the current system knows and does. By maintaining the status quo, this established system will continue to place increasingly burdensome economic demands on employers, employees and governments.

A Kaiser employer survey indicated that in 2002, the average *per person, employer contribution* for medical care, across all forms of

coverage, was about \$4300.⁵ For the relative small percentage of employers who provide comprehensive workplace health promotion programs, the amount spent is estimated to be about \$60 per employee per year. This means that even these more progressive employers pay about 80 times more for diagnosis and treatment of medical problems, after the fact, than they invest to help employees achieve optimal health, prevent diseases, control use, moderate costs, lower absenteeism, and increase work performance. *A wake-up call for corporate America is that this huge discrepancy between the cost of repairs versus the money spent for preventative maintenance is one of the fundamental factors driving the health care cost crisis.*

Investment in Human Capital (IHC)

IHC has been discussed and practiced within the corporate world for years. Most often, IHC is associated with recruitment–retention–engagement, leadership development, training across a broad spectrum of skills, career planning and development, succession planning, and performance-based compensation. Sometimes IHC is used for the “health and well-being” of employees through the payment of about 80% of disease diagnosis and treatment charges, paid vacation-sick leave–worker’s compensation, employer-supported retirement plans, and profit sharing. Although these are all meaningful and valuable IHC services, few have impact on reducing health care use or moderating cost increases.

In 1968, Cooper wrote that the human body is the most complex machine on earth and the only one that does not come with a service manual.³³ This ironic observation could be directed toward employers who devote substantial financial resources to required or recommended preventive maintenance on a wide variety of corporate assets, yet choose to wait until employees be-

come broken (ill or incapacitated) and then spend vast company funds on repairs (diagnosis and treatment). In the meantime, because of the lack of IHC in the form of “health-oriented preventive maintenance” and adequate disease management, incalculable amounts of revenue and profit are lost because of skyrocketing medical expenditures, excess illness absenteeism, and reduced work performance, which are caused by diseases that could be prevented or controlled.

Through the application of a bit of satire, the fallacy of this approach can be vividly illustrated by imagining a fictitious new airline company that decides to offer the “lowest fares in the industry, every day, every flight.” This is accomplished by spending nothing for plane maintenance and applying these funds to reductions in ticket prices. If and when a pilot can land a plane with mechanical problems, then and only then, will maintenance be performed. In the process of flying from one city to another, dozens of planes crash and thousands are injured and die unnecessarily. In addition, hundreds of millions of dollars in capital equipment are lost through lack of maintenance.

No one would think of operating an airline this way. As absurd as it sounds, however, this is how many employers approach employee health care. As pointed out, relatively progressive employers pay 80 times more in diagnosis and treatment charges than they pay in preventive maintenance programs for employee optimal health. This reactive, rather than proactive, approach persists despite solid evidence that 50 to 70% of all diseases are associated with modifiable health risks and therefore potentially preventable.³⁴

IHC should include the provision of innovative, effective programs that create a health enhancing corporate culture, and promote a healthy lifestyle throughout the workforce. This includes regular access to health risk assessments (HRA) and proac-

tive, high-quality, targeted intervention programs for obesity control, smoking cessation, physical fitness, optimal nutrition, stress management, and the like. These programs should be supported by innovative and substantial incentives, financial and otherwise, that encourage employees to participate and achieve documented lifestyle changes that prevent or control disease. Incentives (or disincentives) are sometimes provided for not smoking or reduction in coverage for auto accidents when seat belts are not used. One of the most effective and innovative incentives was part of a 5-year, multimillion dollar, National Institutes of Health-funded worksite health enhancement research project involving 4000 municipal government employees.³⁵ The employer decided that annual participation in a health evaluation (including HRA and biometric screening) was a prerequisite for health care coverage. From 1985 to 1990, an average of 97.5% of the employees participated annually. The incentive of employer-provided health care coverage compared with self-pay is a powerful motivator. During this 5-year period, health care costs for this employer increased about 2% per year³⁵ compared with the national, annual average increase of about 18%, per year.⁴

A second part of successful investment in human capital is disease management. Health enhancement will reduce the prevalence of, but will not eliminate, preventable diseases. After getting off to a slow start about 10 years ago, today’s escalating health care costs have brought disease management into focus. In 1997, only 10% of employers provided disease management programs. This doubled to 20% in 2001.⁸ Some reports suggest that more than 50% of employers now provide disease management. There is increasing documentation that specific disease management, especially that directed toward diabetes, asthma, arthritis and depression is cost-beneficial in the short term.⁸

Longer term follow-up will determine whether there are major sustained reductions in costs, complications, and comorbidity usually associated with these and similar conditions. Newer efforts to quantify and compare the impact of optimal versus poor control of selected disease on work performance may add a new dimension to the rationale for investment in human capital through disease management.³⁶ As pointed out, disease management is on the increase and is expected to continue to grow as a legitimate approach to investing in human capital and cost containment.

As changes in the current medical system are proposed, debated, prioritized, and enacted, numerous suggestions will be made. Investment in human capital in the form of proactive, prevention-focused, employee health enhancement must be part of the change. *A wake-up call for corporate America is that an employee health care crisis is on the horizon. If the employer assumes the responsibility to pay for the diagnosis and treatment of employee illness, then serious consideration must be given to the reallocation of existing IHC funds. This redirection of funding should be toward health enhancement programs and services that optimize employee health, which can reduce health care use, moderate cost increases, reduce illness absenteeism, and improve work performance.* In this process, programs may take place at two levels: the general workforce and executive and upper management.

Employee Health Enhancement-Disease Prevention

According to a Hewitt survey of 700 employers, 93% indicate they provide "some kind" of employee health promotion program,³⁷ but this can be misleading. For the majority of these corporations, the posting of a stop smoking poster in the cafeteria or similar passive efforts constitute

what they call a health promotion program. With regard to serious health enhancement efforts, only 28% of employers offer HRAs to analyze employees' health risks and promote early detection of preventable conditions, and only 40% of these employers provide HRAs on an annual basis.³⁷ About 75% of employers provide screenings for blood pressure and blood cholesterol through the health care plan or on-site "health fairs." Programs ranging from periodic health-oriented seminars and workshops to counseling for lifestyle habits that contribute to chronic or acute diseases are provided by 72% of employers. Various types of financial incentives or disincentives are offered by 42% of employers.³⁷

A significant number of literature reviews are available related to return on investment in health enhancement in the form of either improved health outcomes, cost-effectiveness, or cost benefit. Pelletier reports on a total of 120 health enhancement studies that consistently document positive clinical effectiveness and cost-effectiveness.³⁸⁻⁴² Heaney and Goetzel reviewed 47 studies from 35 programs and concluded that evidence for positive outcomes was rated "indicative/acceptable," with positive results primarily in programs that included both health assessment and targeted follow-up counseling.⁴³ O'Donnell assessed 36 studies and reported two thirds of them had experimental or quasi-experimental designs.⁴⁴ A review by Aldana indicates positive cost outcomes⁴⁵ as do reports by Chapman⁴⁶ and Siokola et al.⁴⁷

Collectively, these reviews clearly indicate that multicomponent or comprehensive interventions rank higher in both clinical effectiveness and cost-effectiveness compared with single-factor programs, such as a periodic smoking cessation effort. Second, results from randomized clinical trials and quasiexperimental designs suggest that providing individual risk reduction programs

within the context of comprehensive programming is the critical element for successful worksite health enhancement. Despite limitations in methodologies, the vast majority of the research indicates positive clinical and cost-effectiveness outcomes. Unlike clinical medicine, where the question of return on investment (ROI) is rarely an issue, ROI is often the prime question raised by employers who have interests in worksite health enhancement. Aldana reviewed 13 studies that reported average benefit/cost ratios of \$3.48 in reduced health care costs and \$5.82 in lower absenteeism costs per dollar invested.⁴⁸ Goetzel, writing as the editor of a special journal issue concentrating on the financial impact of health promotion states "the return from well-designed comprehensive programs may be at least \$3 to \$8 per dollar invested, within 5 years following program initiation."⁴⁹

ROI can best be reviewed by breaking Population Health Management programs into five categories of interventions: health enhancement, risk management, demand management, disease management, and disability management. Combined health enhancement and risk management interventions strategies focused on lifestyle behavior change have been shown to yield a \$3 to \$6 ROI for each dollar invested in 2 to 5 years.^{42,48,50} These ROI numbers include only the medical cost impact of these programs, so they substantially underestimate the total ROI by excluding cost outcomes like absenteeism, disability, and lost productivity while at work. Limited research suggests that these indirect factors may account for 50-75% of the total ROI.⁵¹ Demand management interventions (ie, self care, decision support) have been shown to yield a \$2 to \$3 ROI for each dollar expended in reduced medical costs within a one year period,⁵²⁻⁵⁴ and limited data indicates a similar return in the second year. This makes demand management a reasonable way of offsetting much of the 5-year cost of

the overall program while the much larger ROI impact of health enhancement and risk management interventions is building over the long term. Disease management interventions have reported up to \$7 to \$10 ROI for each dollar invested on medical costs within one year,⁵⁵ and it's likely that disability-linked programs will yield a similar ROI although little research has yet been reported. This kind of ROI makes these interventions very attractive as part of a comprehensive Population Health Management strategy, especially in addressing the often important issue of offsetting early-year program costs until the impact of health enhancement and risk management interventions are realized. It is important to keep in mind, however, that while these interventions target a very small percentage of the population, they generate a big return on a small number of people. In contrast, health enhancement and risk management interventions, where the return per dollar invested is not as great and takes longer to accrue, address virtually the entire population. A \$3 to \$6 ROI for each dollar invested, on a program targeting 100% of a population is much greater than a \$7 to \$10 ROI on a program targeting less than 10% of that population.

The research on ROI also illustrates a commonsense but crucial factor for success: participation is the key that opens the ROI door. A recently reported analysis⁵⁶ vividly demonstrated the power of participation by showing that a comprehensive health enhancement/risk management program could break even if participation in HRA and follow-up interventions succeeded in shifting just 1% of employees from "high-risk" to "low-risk" status. Recent research on the Citibank program reported that 51% of eligible employees completed an HRA and only 5% completed a follow-up intervention, yet the program yielded an ROI of \$4.56 per dollar invested.⁵⁷ These results il-

lustrate two crucial facts. First, because the cost of health risks is very high, a positive ROI can be achieved at surprisingly low participation rates. Second, with the right participation-building strategies, ROI could increase dramatically.

Executive Health and Well-Being

For decades, corporate executives have participated in sophisticated, physical examination programs at places like the Mayo Clinic, the Cooper Clinic, and Greenbrier. These are usually 2- to 3-day excursions that include many of the latest in diagnostic medicine procedures. Executives often participate on an annual schedule. Thus, a model is available that addresses a segment of executive health needs, but it is a self-limiting "medical model." The executive usually receives abundant monitoring and health status information, but little in the way of targeted behavioral modification assistance to reduce risks and enhance health toward an optimal level. What is needed is a blending together of the "medical model" with a highly effective "behavioral modification model."

There are several programs that emphasize the behavior model. These highly sophisticated executive health enhancement programs are often total-immersion experiences, where executives move from the hustle and bustle of the workplace to an inviting and calming environment. At well-equipped facilities, individuals or small groups of executives interact with a highly qualified and experienced staff. The executives learn how to develop and maintain good health habits, feel better, have more energy, and optimize human performance. Often these programs center on the enhancement of mind, body, and spirit. As such, they often concentrate on stress management, fitness, and optimal nutrition. Spouses are usually welcome

to participate. One such program is a long week-end, two-and-a-half day experience, provided by the Corporate Athlete program in Orlando.⁵⁸ A more in-depth 4- or 7-day behavioral model experience is provided at the Center for Life Enhancement at Canyon Ranch in Tucson.⁵⁹ This program may also be combined with a comprehensive, integrated medical assessment, along with the services of an Executive Health Coach who is on call, year round, at the convenience of the executive.⁶⁰ Internationally, there is the Institute Européen d'Administration des Affaires, which is loosely translated as the European Institute of Business Management, but known worldwide as INSEAD. This organization, which has been operational for nearly 50 years, learned long ago about the value of integrating serious health enhancement activities into the curriculum of the graduate business school. They have proven that the corporate executive can be exposed to the most cutting-edge business skill education and development, but if they are not in optimal health, work performance will not be maximized. INSEAD has twin campuses at Fontainebleau outside Paris and in Singapore.⁶¹ Headquartered in London is Vielif, a program that provides one-to-one health enhancement coaching for corporate executives along with a variety of distance learning and worksite optimal health programs. Vielif also provides a Lifestyle Strategist who is available as a form of ongoing motivation and monitoring.⁶²

The ultimate objective of these executive programs is to optimize health, work performance, and life satisfaction, which could contribute to enhanced corporate success and profitability. While there are a limited number of these in-residence, executive health enhancement programs currently available, they are expected to proliferate over the coming decade.

Limitations to Investment in Human Capital

Corporate America will embrace the challenge of becoming more proactive in making health-oriented investments in human capital. It must do so to remain profitable and competitive. However, even after this occurs, significant voids in health enhancement will still exist. These voids must be recognized and addressed. First, there are the unemployed, who often are the most in need of health enhancement programs and services. Second, there are those who work for small or poorly capitalized organizations where investment in human capital or even the provision of a health care plan is not an option for the employer. Providing the employee with a paycheck and paying the bills exhausts the total cash flow of these employers.

Even though these voids exist, they should not detract from the fact that employers currently provide a health care plan for 68% of the 237 million people with health insurance coverage.⁶ This is a reasonable place to begin investing in human capital through health enhancement, with the full understanding that provisions must be made, through governments or other entities, for investing in health enhancement for those without access to employer provided programs.

The Future

The wake-up call for corporate America sounding the alert that changes in the health care system are inevitable is not one of doom and gloom. On the contrary, when corporations, health care plans, governments and employees collectively embrace the concept and get serious about the provision, acceptance and utilization of health enhancement and disease prevention programs, it will be a quantum leap forward in resolving the health care cost dilemma. Over time, a new approach to health care will develop with the

potential to optimize health, reduce illness absenteeism, lower use, moderate cost increases, and enhance productivity. This new approach will be a win-win situation for all concerned.

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R. William Whitmer, MBA
Health Enhancement Research
Organization (HERO)
Birmingham, AL
E-mail: whitmer@the-hero.org

Kenneth R. Pelletier, PhD, MD(hc)
University of Maryland School of
Medicine
Baltimore, MD

David R. Anderson, PhD
StayWell Health Management
St. Paul, MN

Catherine M. Baase, MD
Dow Chemical Company
Midland, MI

Gary J. Frost, PhD
Canyon Ranch
Tucson, AZ

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